



SCHOOL OF MEDICINE

Department of Neurosurgery

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

For Immediate Release

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Traumatic Brain Injury Trial Underway in Neuro Critical Care at UC Hospital

Brain Oxygen Optimization in Severe TBI Phase-3

AURORA, CO (February 25, 2021). The Department of Neurosurgery at the CU School of Medicine is proud to be one of only a handful of sites in the Rocky Mountain and Midwest regions participating in the BOOST trial, phase 3. Although this a multi-centered trial across the country, there are only a few sites in the middle of the country participating.

March is Traumatic Brain Injury (TBI) Awareness Month. The Department of Neurosurgery has many cutting edge resources for treatment, and several studies underway, one of which is an exciting national study measuring brain oxygenation in those suffering with a TBI.

Traumatic brain injury is a major cause of death and disability in developed societies. Every year, approximately 3.5 million Americans sustain a TBI, of which 50,000 die, and another 300,000 are hospitalized and survive the injury. BOOST3 is a randomized clinical trial to determine the comparative effectiveness of two strategies for monitoring and treating patients with traumatic brain injury (TBI) in the neuro intensive care unit at the University of Colorado Hospital on the Anschutz campus. The study will determine the safety and efficacy of a strategy guided by treatment goals based on both intracranial pressure (ICP) and brain tissue oxygen (PbtO₂) as compared to a strategy guided by treatment goals based on ICP monitoring alone. Both of these alternative strategies are used in standard care. It is unknown if one is more effective than the other. In both strategies the monitoring and goals help doctors adjust treatments including the kinds and doses of medications and the amount of intravenous fluids given, ventilator (breathing machine) settings, need for blood transfusions, and other medical care. The results of this study will help doctors discover if one of these methods is more safe and effective.

“Ultimately our goal is to improve the long term outcomes for our patients with more severe injury,” says Robert Neumann, MD, Director of the Neuro Intensive Care program within the Neurosurgery Department. “Interventions can happen faster once we know oxygen levels in the brain. We would like to make this a standard of care practice, if this study deems it a viable approach.”

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